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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/686,471

10/15/2003

Mu-Jing Li

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6642

42714

7590

04/26/2006

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EXAMINER

DO, THUAN V

ART UNIT

PAPER NUMBER

2825

DATE MAILED: 04/26/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/686,471

Applicant(s)

LI ET AL

Examiner

Thuan Do

Art Unit

2825

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 December 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) 28-43 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-26 is/are rejected.
- 7) ☒ Claim(s) 27 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 December 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>4/30/04 & 9/07/04</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This office action is responsive to the elected restriction filed on 12/27/2005. Claims 1-27 are pending in this office action. The non selected claims 28-43 are requested to cancel in the next response.

The reasons for restriction claims directed to the following patentably distinct species of the claimed invention:

Group I claims 1-27 draw to a circuit layout using flagging any identified isolated vias in adding via fill arrays within eligible via fill areas.

Group II claims 28-43 draw to a circuit layout without flagging any identified isolated vias in adding via fill arrays within eligible via fill areas.

For the distinction of above reason, the restriction is proper and final.

Claim Objections

Claim 1, the terms "creating a patch cell", "adding features" and "removing all but the added features", what are the "patch cell", "features" and "all" standing for ?; and

Claim 21, the term "dummy metal features".

They are unclear to what applicants intend to mean. Clarification or correction is required.

Claim Rejections - 35 USC 112

Claims 1,21 are also rejected under 35 U.S.C. 112, first paragraph. Specifically, since the claimed invention is not supported by either a "removing all" asserted utility or a well established utility for the reasons set forth above, one skilled in the art clearly would not know how to use the claimed invention.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

(e) the invention was described in-

(1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effect under this subsection of a national application published under section 122(b) only if the international application designating the United States was published under Article 21(2)(a) of such treaty in the English language; or

(2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that a patent shall not be deemed filed in the United States for the purposes of this subsection based on the filing of an international application filed under the treaty defined in section 351(a).

2. Claims 1-26 are rejected under 35 U.S.C. 102(e) as being unpatentable over the prior art of Li et al. , Pat. No. 6804808. .

Regarding claim 1: The prior art teaches a method comprising:

creating a patch cell for a given cell of the layout, said patch cell including at least some features from higher level cells above the given cell, and further including at least some features from the given cell (col. 2, lines 50-63);

identifying layout errors in the patch cell (col. 3, lines 26-46);

adding features to the patch cell to correct one or more of the identified errors (col. 5, lines 7-27);

removing all but the added features from the patch cell (col. 5, lines 7-27 for adding features. The "removing all" can not be fought in the specification); and then

instantiating the patch cell into the layout to thereby effectuate the patch cell corrections into the layout (col. 2, lines 50-63).

Regarding claim 21: The prior art teaches a method comprising:

creating a patch cell for a cluster cell (metal covered layer) of the layout, said patch cell including covering metal features from higher level cells above the cluster cell, and further including metal and via features from the cluster cell (col. 2, lines 50-63);

identifying isolated vias in the patch cell layout (col. 3, lines 26-46);

adding dummy metal features to the patch cell within landing areas containing one or more identified isolated vias (col. 5, lines 7-27 where the redundant vias are added or fill geometries PFVA in col. 4, lines 23-48 to meet the limitation of adding dummings metal features); then

identifying remaining isolated vias in the patch cell layout (col. 3, lines 26-46);

adding via 511 arrays within landing areas containing one or more identified isolated vias;

removing all but the added features from the patch cell (col. 5, lines 7-27 for adding features. The "removing all" can not be fought in the specification);

flagging any identified isolated vias which remain uncorrected (col. 7, lines 50-67); and then

instantiating the patch cell into the layout to thereby effectuate the patch cell corrections into the layout (col. 2, lines 50-63).

The remaining claims of 102(e) section contain features similar to the rejection of above claims and rejected in the rationale.

3. Claim 1 is rejected under 35 U.S.C. 102(e) as being unpatentable over the prior art of Li et al. , Pub. No. 20030229862.

Claim 1 is also taught by this Pub. No. 20030229862 in the abstract, paragraphs [0005],[0007] and [0012].

Allowable Subject Matter

Claim 27 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The reason for allowance is that the prior art of record does not teach the dependent claims with all other features of corresponding independent claim.

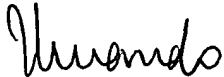
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CONTACT INFORMATION

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thuan Do whose telephone number is 571-272-1891. The examiner can normally be reached on Monday-Friday 8:30-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jack Chiang can be reached on 571-272-7483. The fax phone numbers for proceeding this application is 571 273-8300.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 800-786-9199.



Thuan Do
Primary examiner
04/24/2006